Two pieces, each as large as a man's thumb-nail, were perpendicular to the cranial bone at their remote borders. One of these pieces penetrated the cerebral tissue. Under the portion removed with the trephine, and extending down under the solid bone, was a large dark clot which was removed, and the small piece of periosteal membrane which had been turned back, was returned to its place over the aperture made by the trephine. The reflected scalp was next put *in situ*, and secured by two stitches through the lips of the posterior incision. These were supported by narrow bands of court-plaster. He sustained apparently no shock from the operation; was rational the whole time; pulse 70, and soft; ordered water-dressing, cold or hot, whichever should prove most agreeable; perfect quiet, rest; diet of broth, gruel, or toast.

6th. A.M. Slight headache during the night, but not sufficient to break his rest; pulse 65, soft, full, and regular; to have sulph. magnesia in case his head aches. 5 P.M., pulse 80, quick and full, not hard; temperature 100½°. While eating this afternoon, pain in his head recurred, upon which he was given Epsom salts; ordered twenty grains of calomel; when bowels are moved, to have one-sixth of a grain of morphia; odour from wound offensive; ordered flaxseed poultice, saturated with weak solution of carbolic acid; strips of court-plaster removed.

7th. Quite comfortable; had one motion of bowels in the night. Pulse 55, full, soft; temperature normal in axilla; suppuration going on through the edges of the wound; no offensive smell. Treatment continued.

8th. Pulse 80, of greater strength than yesterday; temperature 99° under tongue; wound looks well; bowels were moved yesterday in afternoon two or three times by the calomel; had two movements of bowels to-day; to have one-sixth of a grain of sulphate of morphia, to check the bowels and allay irritation.

9th. Pulse 72; feels first rate.

11th. Had a little pain over the insertion of the sterno-mastoid muscle last night, relieved by tincture of camphor. Pulse 72, regular.

12th, 13th, 14th. Doing well; wants more to eat; request denied.

15th. Posterior incision almost united.

16th. Removed stitches.

17th. Sat up half an hour to-day in bed.

21st. Sits up two or three times a day; has walked across the room once or twice; wound almost healed, except at the vertex and lower part of aural incision; at these two points granulations are exuberant.

March 1. A little "proud flesh" still remains at the two points before specified; stick of nitrate of silver applied. Dismissed. At present he is working at his trade; feels well and strong.

ART. XVI.—*Total Inversion of the Uterus; Death probably from Heart-clot; with Remarks on the Source of Danger after Profuse Hemorrhage.* By BENJAMIN WOODWARD, M.D., of Wyandot, Kansas.

JANUARY 10, 1871, I was called to a primipara, 22 years of age—a large, muscular, vigorous woman—who had been in labour all night. The os was but little dilated, though the membranes were inflated. As the pains were irregular and exhausting the patient, I gave her half a grain of morphia. The head had not engaged and she rested for two hours, then the pains returned with great severity, and lasted for ten hours; at the end of which time the vertex presented, and one long severe pain, lasting fully ten minutes, brought the child, and immediately afterwards the placenta. As I was securing the cord she gave a long-drawn sigh, and in a moment there was a gush of blood which deluged the bed. Feeling for the uterus, it was not contracted in the least. I tried to bring contractions on by grasping the uterus through the integuments, but to no avail. Pressing on the aorta with one hand and the other inserted into the womb, while ice-water was dashed on the abdomen, contractions ensued, but by this time she was blanched, and the pulse was a mere thread. Strong coffee, brandy, laudanum, and, as soon as it could be prepared, beef-tea were given, and she rallied well. She was well bandaged and directions given that *on no account was she to be raised even from the pillow.* Early the next morning I was sent for in haste, and found her pallid, gasping for breath, tossing her arms about, and crying out "my heart, my heart." The uterus was completely inverted, lying between the thighs, and bleeding profusely. With great effort it was replaced, pushed well up, and it then contracted well. It was secured with a compress and T bandage. Pulse 180, irregular and fluttering; heart's action tumultuous, and with the ear over the organ an irregular flapping was heard on every inspiration. The breathing was laborious and gasping. She tried to grasp her heart, clutching at the breast, and cried out from time to time, "I am choking; my heart, my heart!" Soon she began to vomit a glairy, green liquid, which nothing would relieve. From this time to that of her death, five days after delivery, there was the same tumultuous action of the heart; the terrible struggle for breath, and the continuous vomiting made it one of the most painful sights I have ever witnessed. Some twenty hours before death she became comatose. Though strictly forbidden, she had been allowed to get out of bed, and sit on the commode. She was hardly seated when she cried out, "Get me to bed; I am falling in pieces; I am dying!" and the gushing commenced. The womb had become inverted.

Was this not a case of what the late Prof. C. D. Meigs called *heart-clot?* Nearly all writers on obstetrics had pointed out the danger of raising up women who had lost much blood in labour; but it was not till 1849 that this able obstetrician, in an article in the *Medical Examiner* (see No. for March, p. 141), proved the true pathology of such cases. Referring to the well-known fact that in severe hemorrhages the blood last lost is more readily and firmly coagulated than that first poured out, and that what was left in the large vessels more readily coagulated than what had been lost, he writes:—

> "Loss of blood produces a tendency to fainting or lipothymia; during an attack of fainting the motions of the heart are enfeebled; the diastole slow, torpid; for the blood moves languidly in both the venæ cavæ, pours itself out in a slow current into the auricle, which it sluggishly distends, and sometimes is then instantly converted into a solid clot. If a clot be formed in the right auricle, it will also be formed in the *iter ad ventriculum dextrum*, filling up the cone of the tricuspid valve; and the nucleus of it will cause the coagulum at length to occupy the cavity of the right ventricle, and extend itself to a greater or less distance along the tractus of the pulmonary artery. If the whole pulmonic side of the heart should be perfectly occupied in this way, the

death of the individual would be instantaneous; and I doubt not that many of the examples of sudden death, after delivery in hemorrhagic labours, are produced by the formation of cardio-morphous coagula which form in the instant of a state of fainting or lipothymia."

Two cases of this kind have come under my own observation.

One was that of a soldier of the 22d Ill. Vols., who, at the battle of Belmont, Nov. 7, 1861, was shot in the shoulder. Before aid could be rendered he fainted from loss of blood. The bleeding was arrested, and he lay with others on the ground. When put in a wagon to be taken to the transport he was comfortable; but soon after being raised up he began to gasp and soon died.

The other was also a soldier in the Park Barracks Hospital, Louisville, who had been stabbed in a drunken quarrel. The femoral artery was cut, and he lost much blood. After the artery was ligated he was laid on his cot, and the strictest orders given that he should not be raised up, but in less than an hour he got up; but had hardly got upright when he gasped and fell dead. An autopsy made before the body was cold showed a clot in the right ventricle, extending two inches into the pulmonary artery. It was white, and like very firm jelly.

It is well known that blood taken in the erect position will cause fainting more readily than when lying down. In the case of a woman who has lost a great part of her blood in labour, the remaining blood being easily coagulated, if raised up she either faints entirely, or a clot forms in the heart from which death must ensue, either instantly or in the space of a few days—instantly, if the clot is so extensive as to fill the ventricle, or after a time if it is partial—as we have no known means of dispersing a clot when once formed. Dr. Joy calls these clots polypous concretions of the heart and arteries, but neither he nor Hope indicates their probable formation from flooding in the accouchée. Professor Meigs shows that a patient who has lost much blood is not safe from this danger as late as seven days after the flooding, deaths having occurred at that late time.

Leaving this phase of the case, I will advert to the inversion of the uterus, and inquire what that may have had to do with the death? Obstetric writers generally ascribe this accident to pulling at the cord. Churchill, however, says: "It may be caused by a relapsed flaccid state of the uterus and its appendages." Of this latter class must have been that of my patient; for the placenta had come of itself, even with the child, and my hand had been inserted into the womb; and when she was finally bandaged it was in its place.

Within the past thirty years I have seen five cases of inversion, in one of which inversion took place during a severe after-pain; though how that could produce it I am unable to explain. In one, it was caused by a midwife pulling an adherent placenta, and the woman died of hemorrhage before I reached her.

It is reasonable to conclude that in the case of a woman exhausted by long, severe labour, and then by loss of blood, the tissues should be so relaxed, that when seated on a vessel and straining to micturate, the organ should become inverted.

The severity of "the shock" is spoken of as endangering life, and I have no doubt but that it had much to do with the death of my patient. Have we any means or remedies which can avail to save life after the clot is formed in the heart? The pathology of the case leads to a negative answer. Before alkalies or other remedies could break down the plastic state of the blood the patient is dead, or in such a condition that death must ensue. Prof. Meigs thinks that in nearly every case of fainting from being raised up after severe hemorrhage, there is a tendency to clot-formation, and that a sudden dash of water, a sharp slap, or anything which gives a sudden start, may force the stagnating blood forward, and thus prevent coagulation; further than this there is no prospect of relief. The disease is one the only sequel to which is death.

I have been thus prolix for the reason that the accident is so rare that it is seldom adverted to, and yet is one of the gravest which can occur. A death from this cause took place in my own practice twenty-five years ago. At that time I did not understand its pathology, and it was not till I read Prof. Meigs's paper that I realized the source of the danger. Since that time it has never been absent from my mind when with a woman in labour, or a badly wounded man in the field or in hospital.

ART. XVII.—*A Rare Malformation in the Brain.* By W. W. KEEN, M.D., Lecturer on Anatomy in the Philadelphia School of Anatomy.

In demonstrating a brain recently to one of my dissecting classes, I met with the following malformations, the first of which I believe to be very rare. In my own experience I have never met with it before, nor, so far as I have searched, do I find any allusion to such an anomaly.

1st. The *fornix*, instead of being solid from side to side, consisted of two lateral halves with a triangular space between them. This space was $1\frac{3}{8}$ inch long by $\frac{3}{8}$ of an inch wide. It began just at the posterior border of the fornix, where the two posterior pillars were barely united, and reached nearly to the anterior pillar, where also slight union existed between the two halves. Through the opening the velum interpositum was seen.

2d. The *fifth ventricle* was exceedingly large—the largest I have ever seen. It measured $\frac{5}{8}$ of an inch wide, and $1\frac{3}{8}$ inch long. Neither this ventricle nor the lateral ventricles were in any way diseased or distended with fluid. The dura mater corresponding to the right parietal bone was ossified in its outer layer. The anomaly noted in the fornix points doubtless to its normal origin and development by two lateral halves whose separation is marked usually by the divergence of the anterior and posterior pillars only.